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ANNUAL REPORT  
TO THE  
CITY OF BIRMINGHAM EDUCATION COMMITTEE  
OF THE  
SCHOOL MEDICAL OFFICER  
(GEORGE A. AUDEN, M.A., M.D., M.R.C.P., D.P.H.),  
INCLUDING THAT OF THE SUPERINTENDENT OF  
SPECIAL SCHOOLS,  
FOR THE  
YEAR ENDED 31<sup>ST</sup> DECEMBER, 1912.

*In accordance with Circulars 576 and 596 of the  
Board of Education.*



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ANNUAL REPORT  
OF THE  
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FOR THE YEAR ENDED 31<sup>ST</sup> DECEMBER, 1912.

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ORDINARY ELEMENTARY SCHOOLS.

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Owing to the enlargement of the City area in November, 1911, and the absorption of the Local Education Authorities into that of the City of Birmingham, it was not possible to deal adequately with the work of medical inspection of the added areas in the Report for the year in question. During the year 1912, however, while the work of the Medical Department has been carried out in a uniform manner over the whole City, every effort has been made to maintain all the special developments which had already been achieved in the recently added areas with only such changes as were rendered necessary by a central administration. This uniformity has been rendered the more easy by the fact that for the greater part of the year there were no changes in the medical staff. In November Dr. Sophie Jackson, D.P.H., was appointed to take the place of Dr. Annie Anderson, resigned, who had previously acted as School Medical Officer for the Borough of Aston Manor.

The year has been marked by one advance of importance, viz., the establishment of Dental Clinics and the appointment of an Ophthalmic Surgeon. Dr. Beatson Hird (Ophthalmic Surgeon to the General Hospital) was appointed in the latter capacity, and began his duties on May 1st (see page 21). Although the actual dental treatment did not begin until the commencement of the present year (1913), all the necessary equipment of the four clinics and the appointment of four dental surgeons properly belong to the period under review (see page 5). Two Dental Surgeons were appointed for half-time service at the Dental Hospital, and one whole-time Dental Surgeon, who has hitherto divided his time between the clinics at Aston and Selly Park. In addition, Mr. A. J. Kelsey, L.R.C.P., L.D.S., was appointed for the third chair at the Dental Hospital. He has also undertaken the supervision of the dental work, the keeping of the necessary statistics, the administration of anæsthetics, etc., under the general direction of the School Medical Officer. In addition, Miss Averay Jones was appointed to have supervision over the social investigations and the payments made by the parents for dental treatment.

The basis of the Dental scheme is preventive, *i.e.*, the early prevention of dental caries and of the resulting malnutrition and ill-health rather than the palliation of advanced decay and its effects. The treatment of the six to eight year old group of children forms, therefore, the main work of the clinic. Three days in each week are devoted to this group—a fourth day is utilised for re-appointments and the remaining day for the treatment of children of other ages, either specially chosen by the Medical Staff or at the earnest entreaty of the parents, or children selected from the special or open-air schools.

Nitrous oxide anæsthetics are administered also by one or other member of the Medical Staff.

The centralisation of educational administration for the enlarged City has set free for other purposes the buildings previously used as Education Offices at Aston, Greet, and Handsworth. These are used as Inspection and Treatment Sub-Centres, and are admirably suited and conveniently situate for the purpose. In addition, the house in King's Heath Park and the temporary building formerly used as an infant school at Fashoda Road, Selly Park, are also used for the same purpose. Thus, together with the Central Office, there are six Sub-Centres for use in connection with Medical Inspection and the activities ancillary thereto. The large area covered by the City renders it imperative to make some provision of the kind if there is to be that close and harmonious relationship between the Medical Department, the parents, and the Teaching Staff, which is necessary to the real success of any co-ordinated scheme. Sub-Centres of this kind may become more and more definitely the points round which are centred all the activities associated with Medical Inspection in the district in which they are situate, for the special examination of children, treatment of minor ailments, provision of spectacles, and dental treatment.

At the time of the inclusion into the City it was not found feasible to continue the use of the Centre at King's Norton for inspection and treatment by the School Medical Officer. Two other areas of the City are in need of some simple form of Inspection Centre, viz., Harborne (including Quinton and Bartley Green) and Erdington, which are at present at a great disadvantage in this matter. Two rooms would be all that would be necessary for such a purpose.



With such a Sub-Centre in each of the districts each Assistant School Medical Officer would be able to carry out the work therein with such a measure of autonomy and independence of action in detail as would be consistent with the general administrative control of the Central Office. Under a scheme thus outlined the position of the Assistant School Medical Officers in relation to the Chief School Medical Officer would be broadly comparable with that of the District Medical Officers of Health to the County Medical Officer. An arrangement upon these lines would minimise any tendency to excessive centralisation, and would make for increased efficiency.

The establishment of Dental Clinics and the appointment of an Ophthalmic Surgeon (coupled with the graduated scale of payment for the spectacles ordered) has already removed some of the difficulties previously experienced in connection with these two important classes of defects, but there is still need for further extension of this type of work to develop an organised system. Co-operation is becoming more definite between the Medical Department and Medical Practitioners, the Charity Organisation Society, the City Aid Society, the staffs of the various Hospitals, etc. The appointment of a Lady Clerk who has had a proper training in social work to supervise the investigations incidental to the work of the School Clinics, marks a distinct step in this direction, and the value of her work in the future will be greatly enhanced by the help she is able to give in placing this co-operation on a firmer and more definite basis.

#### THE SCHOOL CLINICS.

Although no part of the scheme for treatment was actually at work during the year under review, yet the



scheme has been long under consideration, and belongs properly to this period. A general description of the full scheme may not, therefore, be out of place.

*A.—Dental Treatment.*

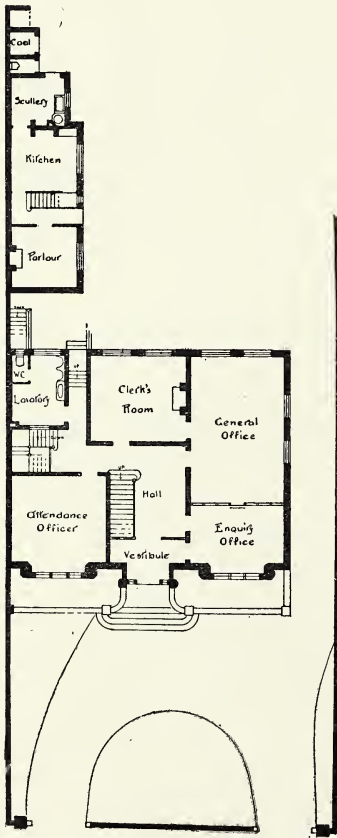
ASTON.—The Dental Clinic at Albert Road consists of a Waiting Room, Surgery, and small side room leading therefrom. The Waiting Room, formerly the General Clerks' office, is a large room used in conjunction with the School Medical Officer, with a well protected open fire. Separated from the Waiting Room by the Entrance Hall is the Surgery, which is a very suitable room for the proper carrying out of the work. Leading from the Surgery is a small side room fitted with a glazed sink for the use of children after extractions and for washing instruments, etc. The children can leave the side room without re-passing through the Surgery.

SELLY PARK.—Two large square classrooms are used as Surgery and Waiting Room.

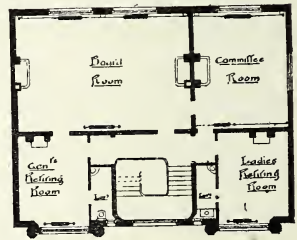
DENTAL HOSPITAL.—The Education Committee have the use of the whole of the first floor of this building, including Waiting Room and ante-room, Surgery (two chairs), Room for children after treatment, and two Anæsthetic Rooms. There are two stairways. As the building was specially designed for the purpose, it may be said to be ideal (with the possible exception of the small size of the Waiting Room).

GREET.—It is proposed to divide the Committee Room into a Waiting Room and Dental Surgery, and to utilise the ground floor for a Medical Officer's Room and Minor Ailments Room.

HANDSWORTH.—The Dentist will use the room formerly used by the Attendance Officers, separated by the Entrance Hall from the Enquiry Office and General Office, which will be used as a Waiting Room and Minor Ailment Treatment Room, while the School Medical Officer will continue to use the Clerk's Room. The whole building will thus, with the accommodation for tonsil and adenoid cases, described below, form a complete School Clinic (see plan below).



Ground Plan.



1<sup>st</sup> Floor Plan

### *B.—Eye Treatment.*

Each of the Sub-Centres (except King's Heath House), as well as the Central Office, is now fitted with a dark room for refractions, and children will be seen there by the Assistant School Medical Officer of the district, except in cases where the Central Office is more accessible.

### *C.—Tonsils and Adenoids.*

It is proposed to convert the first floor at the late Handsworth Education Office into a clinic for the operative treatment of Tonsils and Adenoids (see plan). The Board Room will accommodate 10 beds, giving a cubic space of 900 cubic feet per bed. The adjoining Committee Room will serve as an Operating Room. Two baths can be installed in the Ladies' Retiring Room, which is already provided with lavatory accommodation. The corresponding Gentlemen's Room will serve as a bed-sitting room for the Nurse Attendant. It is proposed that at first operations shall be performed on one morning in each week, and that the children shall remain in the clinic for 24 hours. A fully qualified surgical nurse will take charge, and will sleep in the bed-sitting room, already mentioned, for the night. As the work progresses it will be easy to have two operation mornings. By this means 430 or 860 operations could be performed in a school year of 43 weeks.

### *D.—Ringworm and External Minor Ailments.*

For the treatment of these conditions (other than X-ray treatment) the various Sub-Centres will supply all the accommodation that is necessary. In the centre of the City different conditions prevail, and there is no accommodation which can cope with the large number of children who even under present circumstances attend the office for a variety of causes.

It is therefore proposed to build and equip a Central School Clinic, at which all the examination and treatment of children can be carried on, thus leaving the offices in Margaret Street free for clerical work. The need for provision of this kind is urgent. At the present time some 300 children, mostly accompanied by parents, are seen at the Central Office each week.

A central position is essential, and the Committee have provisionally secured an area of land in Great Charles Street, contiguous to the Dental Hospital. In the building to be erected thereon it is proposed to install two cubicles for the X-ray treatment of ringworm (the apparatus possibly may also serve in the future for radio-diagnostic purposes in cases of pulmonary tuberculosis), refraction room, waiting rooms, and rooms for medical examination and the treatment of minor ailments. The proximity of the Dental Hospital will render the Dental Clinic there to all intents and purposes a part of the same block.

It will be seen that when the complete scheme is in operation the City of Birmingham will be fully equipped for the amelioration of those defects found in the children of the Elementary Schools for which there is inadequate provision elsewhere.

#### CHILDREN EXAMINED.

All entrants and leavers have been examined as heretofore. As, however, the chief point in the examination of the latter is now the information which it gives toward the choice of a suitable employment, it has been found advisable to examine all children who are likely to leave within twelve months of the date of the examination rather than limit the examination to those who leave

before the end of the school year (July 31st). By this means very few children escape the leaving examination. During the first half-year an additional group was also examined, viz., those who had passed their seventh, but not their eighth, year. Highly important as is the examination of this group which, by reason of its being an age group through which all children have to pass, secured the examination or re-examination of all children in the schools, it was not found possible to continue it without an increase in the inspectorate, and at the same time to secure adequate "following up" of the children found to be defective in the schools. At the present time each officer therefore devotes 3 days to routine inspection, one half-day to the estimation of errors of eyesight or a kindred work, and one whole day per week to re-visiting the schools previously inspected. In this way each school is visited by the Assistant School Medical Officer about three times per annum. The value of these re-visits cannot be over-estimated. They allow the examination of delicate children or those whose attendance is irregular or who have been in Hospitals, Convalescent Homes, and the Open-Air School, while they allow that close touch between the Teaching Staff and the Medical Department which is essential to real and lasting results of medical supervision. From the Assistant Medical Officer's point of view they form a welcome relaxation to the somewhat monotonous work of routine inspection. Another advantage which will accrue from these more frequent visits will be the possibility of examining children about to leave from the standpoint of the employment to be chosen,

## DEFECTS FOUND.

The following tabular statement shows the number of defects found in the course of routine medical inspection :—

Number of Children examined	...	...	...	...	34,224	per cent.
Number of Parents present	...	...	...	...	23,082	67·5
DEFECTS.						
Eyes :—						
(a) Vision (6/12 or less) all causes	...	...	...	...	3,608	10·5
(b) Squints	...	...	...	...	913	2·6
(c) Corneal Ulcers, Opacities, and Keratitis	...	...	...	...	217	·6
(d) Other eye defects	...	...	...	...	339	·99
Ears :—						
(a) Hearing defective, all causes	...	...	...	...	1,255	3·66
(b) Otorrhœa	...	...	...	...	1,030	3·
Nose and Throat Defects :—						
(a) Tonsils or Adenoids...	...	...	...	...	3,112	9·09
(b) Other defects...	...	...	...	...	204	...
Chest :—						
(a) Phthisis—certain	...	...	...	...	107	·31
(b) " doubtful	...	...	...	...	146	·42
(c) Other Lung Diseases	...	...	...	...	673	1·96
(d) Heart Disease—congenital	...	...	...	...	219	·63
(e) " acquired	...	...	...	...	452	1·32
Chorea	...	...	...	...	67	...
Epilepsy—including Petit Mal (undoubted cases)	...	...	...	...	58	...
Hernia	...	...	...	...	73	...
Anæmia (marked cases only)	...	...	...	...	107	...
Speech Defects	...	...	...	...	146	·42
Deformities (excluding Paralysis)	...	...	...	...	297	·86
Paralysis :—						
(a) Upper Limbs	...	...	...	...	34	...
(b) Lower Limbs...	...	...	...	...	45	...
Scalp Disease :—						
Ringworm	...	...	...	...	281	·82
Other	...	...	...	...	100	...
Skin Disease	...	...	...	...	288	...
Other Defects	...	...	...	...	1,260	...



## PARENTS.

The number of parents who accompany their children at the inspection has shown a regrettable decrease (79 to 67 per cent.). This progressive drop in the percentage of parental attendance is probably due to the fact that medical inspection has now come to be regarded as a mere incident of school life, in which the parent has no definite or practical interest. It is to be hoped that greater interest will be stimulated by the formation of Medical Care Committees and by Parents' Evenings (see below), which alone can supply the necessary co-operation between voluntary and official action, which is the keynote of success. Another cause is at work to lessen the number of parents present. With the attendances at Inspection and Treatment Clinics, special examinations and re-examinations for Epileptic Registers, Tuberculosis Registers, payments by instalments, Appeals Committees, etc., there has been a growing increase in the requests to parents to attend at the office, sub-centre, or school, which, with the loss of time involved, and tram fares, constitutes an indirect tax upon them and their earnings. This is already becoming a source of complaint, and every effort will be necessary in the future to reduce the number of these journeys to a minimum if the willing co-operation of the parents is to be secured.

## PARENTS' EVENINGS.

Dr. Anderson, North District, reports :—

“During the year (November, 1911, to November, 1912), in which I worked under the Birmingham Education Committee, I held 11 ‘Parents’ Meetings’ at 11 schools. They were held in the infants’ departments of the schools, and were arranged entirely by the teachers, who took a great deal of trouble to make them a success. At Lozells



Street and Alma Street a small musical programme was carried out by the children, with the result that the interest of the parents was insured.

“ My addresses occupied about 45 minutes. I never began till 8.20, to give people time to get seated comfortably. Except at St. Mary's, Bath Street, no refreshments were given, and votes of thanks were discouraged, except impromptu speeches by parents.

“ Forms of invitation were supplied from the office, and they included both parents. At the end of the meeting questions were invited, a privilege of which no great advantage was taken. Samples of model clothing (a dressed doll, etc.), were always sure to attract notice, and patterns were frequently asked for.”

It is to be hoped that a further extension of this valuable adjunct to medical inspection will be attempted.

#### SUMMARY OF WORK DONE BY THE SCHOOL MEDICAL OFFICER IN 1912.

Visits to Elementary Schools	...	...	169
„ Special Schools (including Open-Air School)	...	...	95
„ Homes <i>re</i> After-Care Sub-Committee	...	...	6
„ Homes of Cripple Children	...	...	1
„ Breakfast Centres	...	...	10
„ Remand Home	...	...	21
„ Partially-Blind Day Class	...	...	4
„ Sandwell Hall and Monyhull	...	...	2
„ Shustoke Industrial School	...	...	1
„ Institutions where special cases are supported	...	...	4

Attendances at Police Court	...	...	1
Staff interviewed at office	...	...	108
Staff interviewed at home	...	...	5
Examinations for Board of Education			
Certificate	...	...	42
Examinations of Boy Pupil Teachers	...		12
,, at Handsworth Sub-Centre			2
,, at Aston Sub-Centre	..		5
,, at Fashoda Road Sub-Centre			2
,, of Boys for Birmingham			
Bursaries	...	...	14
,, Epileptics at office	...	..	8
Consultations with Medical Practitioners			
concerning members of staff	...	...	9
Admission Examination for Special Schools			9

In addition to the above, a very large number of children have been referred to the School Medical Officer for special examinations and for special reports.

Seventy girl candidates for Bursaries were examined by the Assistant (Lady) School Medical Officers.

#### DEATHS AMONGST CHILDREN OF SCHOOL AGE.

Through the courtesy of the Medical Officer of Health a weekly return of the deaths of children of school age is received. This is of considerable value in tracing the fatal cases amongst children who have been examined for various purposes, *e.g.*, tuberculosis. During 1912 there were 521 deaths of children between the ages of 5 and 15.

These may be grouped as follows :—				%
Infectious diseases	...	...	145	27·8
Heart and pericardium	...	...	66	12·6
Pneumonia	...	...	49	9·4
Accidents	...	...	48	9·2
Brain and meninges	...	...	41	7·8
Phthisis	...	...	33	6·3
Abdomen and pelvis	...	...	32	6·1
Septic conditions	...	...	20	3·8
Rheumatism	...	...	20	3·8
Tuberculosis (excluding meningitis and phthisis)	...	...	19	3·6
Lungs (other than phthisis)	...	...	13	2·4
Other causes	...	...	35	6·7
Total				521

#### AFTER-CARE AND FOLLOWING-UP.

“ Following-up ” still remains the weak link in the chain of ameliorative effort, and there is at present very little real organised effort to secure what is the first object of Medical Inspection, viz., the cure or alleviation of defects found by the School Medical Officers.

The value of Children's Care Committees has been emphasised in previous reports. Several new Committees, undertaking to follow up the result of Medical Inspection, have been established during the year, and the number of Care Committees now in existence covers 20 schools, while others are now under consideration. With the treatment of defects at school clinics, the increasing elaboration of special educational measures for handicapped children, and the increasing co-operation with

the various charitable and ameliorative agencies of the City, the School Medical Department is assuming more and more the character of a Central Bureau of Child Welfare. There is, therefore, real need for the formation of Medical Care Committees. Much useful work has been done which does not lend itself to a tabular statement, but at present the work suffers on the whole from the absence of any official organisation and the lack of co-ordination which this necessarily implies. The accompanying table gives the results of the work in three Voluntary Schools :—

	St. Mary's	Bishop Ryder's.	Christ Church, Sparkbrook.	Total.	per cent.
Children requiring treatment ... ..	31	31	22	84	—
Treated ... ..	20	17	18	55	65·5
Left (no record) ...	7	2	1	10	11·9
Untreated ... ..	4	12	3	19	22·6

Appended is Miss Matheson's report upon the after-care work done in eight departments of four Council Schools by the Women's Settlement, in co-operation with the Charity Organisation Society :—

“You will see that fully two-thirds of the amount advanced for spectacles has already been repaid. We have only granted seven pairs of spectacles entirely free, but help has been given towards the cost in a few cases. The large proportion of outstanding ear and throat cases is partly due to the fact that these cases take so much time. It is not uncommon for our visitors to have a case under observation for several months before the parent can be persuaded to take active steps, and, in some cases, the persuasion of an officer of the N.S.P.C.C.

has been added to ours. Many of these cases have required convalescent treatment, either after or before the operation, and two or three specially delicate children were operated on at Moseley Hall in order that they might have the best possible chance.

“The Committee have also done a good deal of miscellaneous work, and some of the cases thus undertaken are of a very prolonged and expensive character. These have included six cases of tuberculosis, two of paralysis, two of kidney trouble, and several of chorea. The last named are very difficult to deal with, and there is great need for a special ward devoted entirely to three children during the time they ought to stay in bed. Fifty-six children have been sent away for convalescent treatment, the majority going to Moseley Hall and the Hospital Saturday Home at Great Barr. Milk has been supplied in 23 cases, and 82 hospital notes have been granted by the Committees in addition to 22 obtained by the parents. Of the three consumptive boys who have been boarded out for long periods, i.e., six months to two years, one has recovered and emigrated to New Zealand, one has recovered and is hard at work in the country, and the third is nearly ready for light work if a country place can be found.”

SUMMARY OF “FOLLOWING-UP” WORK CARRIED OUT BY  
WOMEN’S SETTLEMENT SUBSEQUENT TO THE MEDICAL  
INSPECTION OF THE CHILDREN ATTENDING FIVE SCHOOLS.

*Ear and Throat Cases.*

No. of cases notified by Assistant School Medical					
Officer	...	...	...	...	177
,, operations carried out	...	...	...	...	56
,, cases where treatment (other than operative)					
was carried out	...	...	...	...	37

*Eye Cases.*

No. of cases notified by Assistant School Medical Officer	...	...	...	...	...	236
„ pairs of spectacles obtained with help of Committee	...	...	...	...	...	85
„ pairs of spectacles obtained by parents alone						26
„ pairs of spectacles provided by Parish	...					7
„ pairs of spectacles repaired	...	...	...			8
„ cases in which treatment other than the provision of glasses was required	...					35
„ cases in which defect was too slight to require treatment	..	...	...	...		8
Money advanced to parents	...	...	£8	11	2	
„ repaid by parents	...	...	6	8	7	
„ granted to parents	...	.	0	12	9	

Without some voluntary help of this kind, so far as the treatment of defects is concerned, Medical Inspection is practically valueless in some districts. In this connection Dr. Hill reports :—

“I am convinced that really satisfactory results are unobtainable until some change is effected whereby the difficulties of parents are reduced. The parents of children who do not now receive treatment may be placed in two groups, those who can't arrange and those who won't. There are, of course, permutations and combinations of the two. Speaking generally, the highest proportion of bodily defects are found in the children of the poorest quarters. The fathers are either permanently out of work, intermittently out of work, or employed in labour involving little skill. They are unable to pay anything for treatment, and they, of all, have the least chance of securing hospital notes, and their own debased circumstances reduce to a very low point such zeal as they



might show in better conditions. They need pressure to keep them up to their responsibilities, but pressure alone is not sufficient; they are very helpless, and they must have assistance to enable them to do anything. . . . It appears to me that the bounds of the efficiency of the present agencies for securing treatment for defective children have been nearly reached; and if better practical results of Medical Inspection are sought, a supplementary agency must be engaged with the object of

(1) Keeping in close touch with parents, ascertaining the limits of their power to do anything, and stimulating them to those limits;

(2) Providing what is necessary, and the attainment of which is outside the power of the parents."

At the Oratory School a Nurse attends each Friday, and treats about 30 cases. In some instances she follows up the case at home, and sometimes the parent attends the school to learn how properly to treat her child.

Mention must also be made of the generous help afforded to the Medical Department by the Birmingham District Nursing Association. The District Nurses have visited 33 children, mostly suffering from a foul otorrhœa, and have paid 1,301 individual visits. It should be noted in this connection that these cases require a long continued course of syringing, and that only the worst cases, where the condition constitutes a menace to the child's life, have been sent to the Association. These cases will form an important item under any scheme for the treatment of minor ailments.

The results of the absence of any system of "following up" in a school in a poor neighbourhood are



exemplified by the following figures obtained on re-visiting the school (Farm Street) three months after Medical Inspection :—

	Girls'.	Infants'.	Total.
Under treatment ... ..	2	0	2
Still in urgent need ... ..	12	8	20
Less pressing need ... ..	2	6	8
Left school or absent ..	4	4	8

In a number of cases the parents gave as the cause of their neglect the impossibility of obtaining Hospital Notes. The difficulty is a very real one, especially where several Notes have to be found. Thus, as many as 16 Orthopædic Hospital Notes are necessary for a set of irons. It is to be hoped that subscribers having spare Hospital Notes and Convalescent Home Notes will send them to the Medical Department for use for urgent cases.

#### RINGWORM.

Ringworm still continues to be the chief preventable cause of absence from school. Two hundred and eighty-one infected children were found during the routine inspection, and altogether no less than 1,041 children were examined at the Central Office, necessitating 2,794 individual examinations. At the Sub-Centres 238 (Greet), 162 (Handsworth), 537 (Aston), 250 (Fashoda Road), and 53 (King's Heath) have been examined, giving a total of 2,281 cases known to the Medical Department. At Aston the average length of absence from school was just under six months, but several have been absent for more than a year. If five months' absence from school be assumed for each child, it will be seen how great an aggregate loss is occasioned thereby. If attendance at the inspection connoted any form of treatment some encouragement

might be gained from these figures, but beyond a careful inspection and advice to the parents, nothing can be done under present circumstances, and it is doubtful whether any lessened incidence of the disease has yet been achieved. On the other hand, there is reason to believe that the prospect of a prolonged absence from school and the help which the child can give at home is a direct inducement to neglect of treatment.

#### EYESIGHT AND THE PROVISION OF SPECTACLES.

The number of children examined by the Assistant School Medical Officers and by the Ophthalmic Surgeon was exactly equal, viz., 630 in each case.

These may be tabulated as follows :—

Hypermetropia	...	...	...	427
Hypermetropic astigmatism			...	1,016
Myopia	...	...	...	69
Myopic astigmatism	...	...	...	170
Mixed astigmatism	...	...	...	74
Total				1,260

At the beginning of the year 1913 a new scheme of payment for spectacles came into operation, which will greatly increase the number of children who obtain the spectacles which have been prescribed. The Education Committee make themselves responsible for the payment to the Optician for the spectacles prescribed, and a flat rate of 2s. 6d. is charged to the parents, with a reduction according to scale when the parents are found to be unable to pay the full amount. Seventy-nine parents were allowed to obtain their spectacles at this rate during

December, 1912. Under the previous scheme 868 glasses were obtained, making a total of 947, and representing a percentage of 75 of those children who had received prescriptions.

Appended is the Report of the Committee's Ophthalmic Surgeon, Mr. Beatson Hird (Ophthalmic Surgeon to the General Hospital) :—

“ As my appointment was not made until the end of April, 1912, work did not begin until May 1st, so that this report includes only eight months of the year. During that period there were 29 school weeks, and I was therefore in attendance at the Education Office on 58 mornings for the treatment of school children.

“ The number of new cases seen was 725, with a morning average of 12·5. Of these, 630 were found to require spectacles, so that nearly 11 pairs were prescribed each morning. The remaining 95 children did not require treatment by spectacles. Some of them already had glasses, others only slight refractive errors, and some were suffering from inflammatory and other conditions.

“ In September last I began to see for the second time some of the earlier cases, and in all saw 115, averaging just over four per morning. These brought the number of children seen by me up to 840, the morning average of old and new cases for the last three months of the year being approximately 16·5. This constitutes a full morning's work.

“ The analysis of the glass cases works out as follows :

(1) Hypermetropia (long sight)	...	218	34·6%
(2) Hypermetropic astigmatism	...	274	43·5%
Total long sight cases	...	492	78·1%

Amongst these were the squint cases to be referred to later.

(3) Myopia (short sight) ...	...	...	42	6·6%
(4) Myopic astigmatism ...	..	...	60	9·5%
(5) Mixed astigmatism...	...	...	36	5·7%
Total short sight cases			138	21·8%

“This myopic total includes a number of cases seen by me from the Partially Blind Day Classes at the Edgbaston Blind Institution.

“Amongst these 630 cases requiring spectacles there were no less than 196 cases of squint, giving a percentage of the total at 31·1%. I have on a previous occasion pointed out the importance of the treatment of these cases, as the squinting eye often becomes blind if neglected. Instructions are given to each parent as to how this may be prevented, and a leaflet of printed instructions is presented to the parents of each child.

“Every case of short sight is also presented with a printed leaflet of instructions. I have drawn this up with the hope that we may interest the children and parents in the prevention of short sight, and thus help those suffering from this defect from becoming any worse.

“In order to secure that the squint cases are being properly looked after and the squinting eye trained, it is necessary to see them periodically every few months. It is now generally agreed that short sight cases should be seen at intervals of about six months during school life to ensure that the myopia does not increase, and thus to prevent irretrievable damage. I have found it convenient at present to see these old squint and short sight cases at the rate of five a morning before beginning my treatment of new cases, but, as they increase in number, it will probably be necessary to set aside a special time for this work in order that the treatment of the new cases may go on as before.

“Amongst the 725 cases seen were a number of children with scars on the cornea as a result of previous inflammation. These scars, if situated centrally, cripple the sight and, by necessitating education in the schools for the blind or partially blind, add considerably to the expense of education, to say nothing of rendering the children inefficient citizens. As these scars result from inflammation which can be controlled, they should seldom, if ever, result in severe damage to the vision. The importance of early treatment cannot be too emphatically stated.

“Treatment other than by spectacles is at present only in an early stage. My practice has been to give advice and prescriptions to those parents who could afford to go to a chemist. Twenty-five prescriptions were thus given for inflammation and other conditions, and the children have attended regularly for inspection. Many of the inflammatory cases were such as I have referred to above as causing scars on the cornea. It is hopeless to wait until these children get notes for hospital treatment, for they often arrive there when permanent damage has been done. It is therefore important that the treatment of these cases should be carried out at once by our own department, and, if necessary, a nurse should be appointed to attend to the treatment. The saving of many an eye from being crippled will more than repay the expenditure. I hope that in my next report I shall be able to describe an organised department for treatment.

“A number of cases, chiefly of short sight, have been referred to me for an opinion, when it has been doubtful whether education should be carried on at the ordinary school or in the classes for the partially blind. Many cases have been excluded from school for a while where the myopia has shown obvious signs of progression.

“In conclusion, I should like to cordially approve the present arrangement for procuring glasses. Now we have an optician in attendance, and the Committee supply the glasses at a uniform cost, there will be less difficulty in the future in getting the parents to obtain the glasses. The new arrangements will insure this much better than those which have been superseded. To test the eyes and prescribe spectacles is a waste of time and energy, unless we have some assurance that the glasses will be obtained.”

#### MEDICAL CERTIFICATES.

The scheme of dealing with medical certificates of absence from school, outlined in the last Report, has worked satisfactorily. One thousand nine hundred and ninety-eight children have been notified to the School Medical Department by Medical Practitioners as suffering from illness, preventing their attendance at school. Although this work has entailed a considerable amount of correspondence, it has made it more possible to form some estimate of the incidence of various forms of chronic disease amongst school children. Unfortunately at present this information is entirely confined to the cases under the care of those private practitioners who are prepared to give the necessary information, and no information is forthcoming from the Dispensaries or Hospitals. In order to deal effectively with the problem of prolonged absence from school on medical grounds, the School Medical Department should be in the possession of knowledge of the cause of absence in all cases, and this is only possible by a complete system of notifications whereby a Sickness Register may be formed. With this knowledge appropriate measures can be adopted whereby the sacrifice of education which occurs in a very considerable number of cases may be avoided, and an idea can be formed of the need of further provision for special cases.



## CHOREA.

One hundred and forty children were notified as suffering from chorea, and 67 children were found so suffering in the course of medical inspection. Some of the children may be included in both figures, but these numbers serve to prove the frequency of this affection, which is one of the most serious of children's ailments (see page 16).

## ANTERIOR POLIOMYELITIS (INFANTILE PARALYSIS).

This disease was made compulsorily notifiable on January 1st, 1912, and Dr. Robertson reports that the total number of notified cases for the year was 18. It may, therefore be safely said that there was no epidemic prevalence of this disease.

## TONSILS AND ADENOIDS.

The number of children in which an enlargement of the tonsils and adenoids was noted was 3,112, or 9 per cent. of the children examined. The prevention of this defect is closely associated with the proper method of breathing, and careful attention should be paid to the inculcation of breathing exercises, especially after the defect has been removed by operation. Without such breathing exercises the habit of mouth breathing remains, and often renders the operation of comparatively little value. An investigation into the condition of 228 children, who had been subjected to the operation for tonsils and adenoids from one to three years previously gave 72 per cent. in which the operation could be described as "efficient" and 28 per cent. as "inefficient." This group did not include the children in which otorrhœa or rhinorrhœa persisted unless there was in addition the persistence of mouth breathing.



## VERMINOUS CHILDREN.

A considerable amount of attention has been given by the School Nurses to the personal cleanliness of the children, more especially to the condition of the heads. Although there is evidence of a slight improvement in the percentage of those found to be clean, yet the figures betoken a lamentably low standard of personal cleanliness and a lack of endeavour on the part of the parents. The responsibility of the parents is not brought home to them with sufficient force. Apart from the ill results of a verminous condition upon a child's health, the degrading and demoralising effect is very real. Many parents regard the presence of vermin as a normal concomitant of school life, while those who struggle to keep their children clean feel that they have a right to expect, while compelled to send their children to school, a reasonable protection from infection. The system of school bath installations adopted by most other European countries would do much to remove this stigma from our Elementary Schools, and to educate a new generation to a higher standard of cleanliness. The section of the Children Act (Section 122), under which verminous children may be cleansed, and the somewhat meagre cleansing accommodation renders the proportion of children cleansed to those found verminous to be very low, and the question should be considered whether additional accommodation is not now rendered necessary by the enlargement of the City if the campaign is to be in any degree effective.

The following table gives the results of the inspections :—

Number of Examinations.	Nits.	Vermin.	Clean.
142,025	45, 02	6,970	89,998
Per cent.     ...	31·7	4·9	63·4

Dr. Robertson states that the numbers of children reported to the Health Department were :—

- (a) In writing by School Teachers,  
Nurses, and Attendance Officers ... 5,911
- (b) Verbally to Health Visitors when  
visiting schools ... ... 7,690\*

The number of verminous children cleansed at the Floodgate School Cleansing Station during 1912 was 632.

#### INFECTIOUS DISEASE.

The loss of attendance due to infectious disease has been heavy, as will be seen from the accompanying table :—

	Patients.	Contacts.	Total.
Measles ...	7,244	2,187	9,431
Scarlet fever ...	3,429	5,114	8,543
Diphtheria ...	425	889	1,314
<hr/>			
Total cases ...	11,098	8,190	19,288
<hr/> <hr/>			

*Scarlet Fever.*—The usual autumnal rise in the scarlet fever incidence was considerably above the average, and constituted the worst epidemic which the City has experienced for many years. It was spread fairly generally over the whole City, and in no case was a school found to be a clear focus of infection.

*Measles.*—The incidence of measles was unduly high both in the early part of the year and in November and December. The disease in the latter outbreak proved to be a particularly malignant type, and resulted in a heavy mortality.

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\* This figure may include a few of those reported in (a).

The disease was not uniformly spread over the City, but in those districts in which it was prevalent it proved to be the most fatal epidemic which has been experienced. On December 9th Dr. Robertson reported that "in Duddeston and Nechells Ward, where there is a population of 42,000 persons, there have been 83 deaths since the beginning of October; and in St. Mary's Ward, with a population of 32,000, there have been 59 deaths during the same period." Accordingly on December 14th the Health Committee passed the following resolution:— "That with a view to preventing the spread of measles, this Committee, acting on the advice of the Medical Officer of Health, do hereby require the closing of the Infants' Departments of the Council and Voluntary Schools throughout the City from this date until the expiration of the ordinary Christmas holidays." Some idea of the havoc wrought in the schools may be obtained from the weekly returns of deaths between the ages of 5 and 15:—

Week ending	Cases reported from Schools.	Deaths.	Week ending	Cases reported from Schools.	Deaths.
October 5th ...	188	0	November 10th...	380	10
October 12th...	235	0	November 23rd...	458	8
October 19th...	210	2	November 30th...	436	4
October 26th...	405	1	December 7th ...	384	4
November 2nd	331	2	December 14th...	677	5
November 9th	316	6	December 21st...	53	2
			December 28th...	--	4

Total deaths, 48.

An outbreak of epidemic tonsillitis was investigated in St. Alban's C.E. School in September. Twenty-three cases occurred in Standards IV., V., and VI., and later in Standard III. The symptoms consisted of a tonsillitis of

varying severity, with associated glandular inflammation, and in some cases an initial coryza. There was nothing suggestive of diphtheria, and the swabs taken from the throats proved negative. The outbreak seemed definitely associated with attendance at school, and did not show itself in the Infants' Department. From 17 older children capable of giving accurate information as to the occurrence of sore throats or colds in their homes, it was elicited that in three cases some members of the family were affected before the school child, and in four after, while in two instances the whole family suffered at the same time. Of 117 persons in the 17 households, 36 persons were affected, including the school children.

#### TUBERCULOSIS.

The Parliamentary Grant for Sanatorium purposes under the National Insurance Act, 1911, the publication of the "Astor Report" (interim report of the Departmental Committee on Tuberculosis) and the regulations on the notification of tuberculosis, issued by the Local Government Board, have together served to emphasise the important part which the School Medical Department may play in the combined attack upon this disease. In routine inspection 107 cases of definite phthisis were discovered, together with 146 of a more doubtful character. If both these groups be combined (31 and 42 per cent. respectively) the total incidence is one case in every 137 children of the school population.

It is now recognised that, speaking generally, tuberculosis is a true children's disease, and further, that it is a disease of the home rather than a "school disease." In a very large number of the cases the infection takes place before school age is reached. Although the number of

children showing evidence of open tuberculosis increases with each successive year of school life, especially after the tenth year, the danger of the extension of the disease by school children to their fellows is comparatively small. The disease for the most part retains its latent character during school life, only to become patent in the years that immediately succeed, when some violation of the laws of health reduces the resistance of the tissues. There is, however, another aspect of the problem, the importance of which cannot be over-estimated, viz., the influence of the school itself, its buildings, furniture, and organisation, upon the health of the children in attendance there, in causing the latent infection to become active. No anti-tuberculosis campaign can be really effective unless the classrooms and organisation are brought up to modern hygiene standards. This is the more imperative in the older and more densely populated areas of the City, where the schools for the most part date from a time when the principles of school hygiene were less clearly recognised. In the matter of the provision of fresh air, the cleansing of schoolrooms, the methods of treatment of the floors and the prevention of dust, the present condition of the schools as a whole leaves much to be desired. The ventilation of a number of schools, some of which are modern buildings, is very deficient, and the supply of fresh air is inadequate for the needs of the children. These conditions exercise a most deleterious influence upon the health of the children, and by lowering their vitality, directly predispose to infection. An alteration of these existing conditions, together with the use of dust-allaying materials and the more frequent cleansing of the floors, is one of the most urgent needs of the present time.

In order to define a line of action which would secure an efficient co-operation, a meeting was held in June between representatives of the Health Committee and of the Hygiene Sub-Committee.

In the memorandum which was prepared as a result of this Conference it was proposed—

“That an Advisory Committee should be appointed with a view to the co-ordination of the many agencies dealing directly or indirectly with the suppression or treatment of tuberculosis. Such a Committee would, we think, be of much value. It might contain representatives of the Education Committee and their officers, of the Board of Guardians and their officers, of the Hospitals, City Aid Society, Charity Organization Society, the Cripples’ Union, the Hospital Saturday Fund, and the various Dispensaries. Its function would be to make recommendations to the various authorities as to methods which will occur to them as to the adoption of new means or the improvement of existing means of eradicating tuberculosis, or for the treatment and after-care of tuberculous persons of all kinds.”

Another point remains to be considered. According to the arrangement with the British Medical Association, concerning medical certificates for non-attendance at school, a considerable number of certificates are sent to me by Medical Practitioners, in which early phthisis is urged as the cause of absence for long periods. One hundred certificates of this kind were received, and exclusion has generally been granted for four months in such cases. Pulmonary tuberculosis being now a notifiable disease, these cases are under a much more satisfactory supervision by the Health Authority than heretofore. The number of such children excluded from school for this cause has therefore increased, and in view of the present



hygienic conditions of many of the schools the objection of the doctors to the continued attendance of such children at school is valid. To exclude, however, is not only to exclude from all the benefits of education, but from the ordered routine of school life which is so important, and the possibility of securing the food provided under the Provision of Meals Act. The true solution of the question is therefore so to improve the conditions of school attendance, and to provide such special accommodation as may be necessary, that these objections to continued school attendance can no longer be urged with force. It may perhaps be pointed out that by the latest order of the Local Government Board, which came into force on February 1st of the present year (1913), all forms of tuberculosis, including tuberculosis of the bones, joints, and glands, must be notified to the Medical Officer of Health. Definite evidence will therefore be forthcoming in the future of the incidence of these forms of infection, the number of children so infected, and the available facilities for appropriate treatment. It will be noted that in the Final Report of the Departmental Committee, a definite sum is to be recommended for allocation for the provision of the necessary institutions.\* Such institutions can only form but one link in the chain, which must include such organisations as open-air classrooms, playground classes, night camps, open-air schools, residential cripple schools, and the provision of suitable food in suitable cases.

The accompanying table supplied by the Medical Officer of Health shows the distribution of the cases of notified pulmonary tuberculosis in school children in the various wards of the City :—

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\*The Report, which has appeared while this has been in the press, suggests that a sum of £200,000 will be necessary.



*Pulmonary Tuberculosis Cases in Wards, ages 5 to 14,  
1912.*

WARD.	Population.	1st Qtr.	2nd Qtr.	3rd Qtr.	4th Qtr.	Total.
Duddeston and Nechells ...	41,023	17	10	8	13	48
St. Bartholomew's ...	36,937	16	9	8	7	40
St. Martin's ...	39,347	9	6	8	11	34
Ladywood ...	29,061	13	4	5	7	29
St. Paul's ...	29,986	9	10	2	6	27
All Saints' ...	41,745	4	10	5	8	27
Balsall Heath ...	39,158	2	6	10	8	26
Saltley ...	25,565	4	7	4	11	26
Rotton Park ...	33,959	7	6	5	6	24
Sparkbrook ...	34,803	7	4	6	5	22
Small Heath ...	28,873	7	3	2	9	21
St. Mary's ...	32,111	7	5	3	6	21
Washwood Heath ...	31,559	1	9	4	6	20
Sparkhill ...	21,277	6	3	3	7	19
Aston ...	40,851	4	4	3	5	16
Market Hall ...	17,330	4	6	—	4	14
Acock's Green ...	25,204	5	3	3	1	12
Lozells ...	33,982	2	3	4	3	12
Soho ...	26,053	3	1	3	4	11
Selly Oak ...	24,705	4	3	—	1	8
Yardley ...	15,462	—	4	2	2	8
Edgbaston ...	33,258	1	1	3	2	7
King's Norton ...	20,637	1	3	2	1	7
Handsworth ...	25,756	1	3	1	2	7
Erdington North ...	14,925	1	1	3	1	6
Moseley and King's Heath ...	24,998	1	—	4	—	5
Erdington South ...	16,254	—	1	2	1	4
Sandwell ...	18,118	1	1	—	2	4
Harborne ...	14,875	1	—	—	—	1
Northfield ...	7,313	—	—	—	—	—
Not located ...	—	—	1	—	2	3
Totals ...	...	138	127	103	141	509

When it is realised that practically all these children are excluded from school, the magnitude of the problem will be understood. Under existing circumstances they are debarred from the advantages of education, and are likely to become inefficient citizens in consequence. It must be remembered that at this period of life the chances of a cure are much better than in any subsequent age period. The proposed provision of a number of observa-

tion beds and of beds for the sanatorium treatment of infected children at Yardley will be a valuable addition to the means of dealing with the problem, but only a comparatively small number of selected cases can be dealt with in this way. Some further provision will be imperative, and for this purpose the readiest means at hand will consist in a definite association between the work of the Tuberculosis Officer and that of the Medical Department. For such purposes the sub-centres and the proposed Central Clinic will offer facilities for the establishment of some kind of School Tuberculosis Dispensary.

Dr. E. A. Carver reports that the number of children treated under the Tuberculosis Scheme of the General Dispensary has been as under :—

AGE .. ..			0-5.	6-15.	Total.
Male	...	...	8	47	55
Female	...	...	5	29	34
Both Sexes	...		13	76	89

In July a Tuberculosis Exhibition was held in the Town Hall, to which a number of school children found their way. A few teachers availed themselves of the opportunity by bringing classes to the Exhibition, but it is to be regretted that so little advantage was taken of the opportunity which presented itself of giving to the children ocular demonstration of the application of the rules of healthy living.

#### PROVISION OF MEALS AND THE PREVENTION OF TUBERCULOSIS.

In order to emphasise the intimate relationship between the problem of the provision of meals and that

of the prevention of tuberculosis the following memorandum has been presented to the Provision of Meals and the Medical Treatment Sub-Committees.

*Memorandum re Provision of Meals.*

At the present time the various Authorities which deal with the health of the community are united in a combined attempt to reduce the incidence of tuberculosis, and in this attempt an important part may be played by the Local Education Authority. This is emphasised by the interim report of the Departmental Committee on Tuberculosis :—

“It should be added that the Education (Provision of Meals) Act, 1906, is administered by the Local Education Authorities, which may thus provide for the treatment of children suffering from malnutrition, one of the chief predisposing causes of Tuberculosis.”

And again—

“Childhood affords an excellent opportunity for detecting and dealing with Tuberculosis. . . . The factors which tend to weaken the defensive powers of children can be brought under control easily and at an early stage. Amongst these factors the Committee desire to lay stress upon the deleterious effects of malnutrition.”

The malnutrition may be due to :—

1. Lack of food in sufficient quantity.
2. Want of food of suitable quality.
3. Inability to digest and assimilate the food taken.

All these causes may, as is most frequently the case, operate conjointly.

It will be at once apparent that one of the most potent means of directly combating the first two of these causes, and indirectly the third cause, and all three, when operating simultaneously, is afforded by the Provision of Meals Act, which, if properly applied, assumes an important rôle in the anti-tuberculosis campaign. The time, therefore, appears ripe for the consideration of a closer association of the School Medical Department with the administration of the Act than has existed heretofore.

During the past year 535 children have been notified to the Medical Officer of Health as suffering from tuberculosis of the lungs, and by a new regulation of the Local Government Board (which came into force on 1st February, 1913) all forms of tuberculosis, *i.e.*, of the lungs, glands, bones, and joints, are compulsorily notifiable. It will therefore be possible in the future to form an accurate estimate of the number of children so infected, and to select such children as may be suitable applicants for the food provided under the Act. A certain number of these children live under circumstances in which no provision of food is necessary, but in addition to those known to be infected there are other children who, while not actually showing sufficiently clear physical signs of disease to warrant notification, show a degree of malnutrition which must seriously militate against their powers of resistance to the disease. This is the more likely in view of the fact that many of these children are found in homes where there is or has been a case of pulmonary tuberculosis with the poverty which is attendant thereon. It is difficult to give accurate figures in support of this statement, but it is instructive to note that in the study by Miss Winder on the feeding of children in Birmingham under the Act, out of 47 families investigated in which the children were recipi-

ents of free meals, in no less than 13 the parent was disabled by consumption (*i.e.*, 31 per cent. of those in which the cause of the parental disablement was known). A difficulty in obtaining the necessary information from the notifications of consumption arises from the fact that the Tuberculous Order of the Local Government Board expressly forbids any action which would in any way damage the parents of such children, as might occur if a child was fed and payment subsequently demanded by the Education Committee.

Although in some cases the provision of food has been recommended by the Medical Officer of Health on the reports of the Health Visitors, it is the experience of the Assistant School Medical Officers that there are a considerable number of children living under these conditions who are not in receipt of meals. Several causes may account for this.

1. Ignorance on the part of the teachers as to the home conditions, whereby such children are passed over.

2. Failure of the parents to make application to the Committee, due to

- (a) Pride and independence.

- (b) Fear of investigation in the case of neglectful parents.

- (c) Inability to appear at the time of sitting of the Appeals Committee.

- (d) Where the parent is able to work casually only or intermittently there is occasionally reluctance to appear before the Committee lest by the operation of the poverty scale a charge should be made for the meals previously supplied.

3. In some cases where there has been relief from the Board of Guardians the income has been raised to the level of the poverty scale without supplying sufficient to give adequate and suitable food for the children.

I would here draw attention to the method pursued in Edinburgh, Bradford, and Huddersfield, where school meals are given as a part of out-relief, the necessary payment being made by the Board of Guardians to the Education Committee. This would enable some of the children who are excluded from attendance at school by medical certificates to participate in the advantages of the provision of suitable food. Equally valuable would be the adoption of a contributory scheme, such as has been carried on with such success in the Special Schools.

It may be remarked that with the extension of Medical Treatment under the Local Education Authorities (Medical Treatment) Act, 1909, it will probably become necessary for the Education Committee to appoint a certain number of persons trained in social work to carry out the investigations necessary under that Act. Such persons would be peculiarly fitted for making the necessary enquiries in these cases. They would, moreover, by virtue of their association with medical treatment, help to unify the eleemosynary and the remedial aspects of the provision of meals.

#### FEEDING OF CHILDREN.

The mode of administration of the Provision of Meals Act (1906) has not undergone any change from that described in previous reports, with the exception that the porridge menu has been somewhat further extended. There are now 110 schools at which a porridge breakfast is given on three days a week.



During April last an experiment was made of a scheme suggested in a previous Report, *i.e.*, the provision of a mid-day or an afternoon meal at the end of the school day. This was prepared at the Cookery Centre by the children in the Cookery Class, under the supervision of Miss Thorne (Superintendent of Domestic Subjects) and Miss Bellamy (Cookery Mistress), to whose help the success of the scheme was wholly due. Miss Thomason (Laundry Teacher) also gave much voluntary help. The total number of children in receipt of Free Meals—about 60—was divided into two groups. Each received the same two-course meal, whether at mid-day or at 4.30, which was served in the Cookery Centre. Although this could manifestly only be regarded as a temporary measure, the experiment proved satisfactorily the ease and convenience with which meals other than breakfast can be given. The afternoon meal proved a real boon to those children who were employed for the remainder of the day after school hours. Should any change in the type of meal given be contemplated it is worthy of consideration, whether, from a single Centre working for the whole day, meals could not be distributed to various parts of the City—breakfasts to one district, dinners to another, and afternoon meals to a third. Such a scheme would result in a considerable economy of staff, heating, and cost of materials.

The question whether the meal should take the form of a breakfast or a lunch is intimately connected with the problem of malnutrition. Appended is a Report on the question by Dr. E. Hill, Assistant School Medical Officer, late Principal Medical Officer to the Natal Government :—

“I have been present at the time when the school breakfasts are served. They consist of porridge with

milk (with reduced ratio of cream) and sugar or syrup, and one slice of bread and margarine, or, alternatively, of two slices of bread, one with margarine and one with jam, and a mug of cocoa, of which, of course, the milk is the important constituent. The quantity is sufficient and the quality satisfactory, but I venture to question whether the provision of such a meal, in the circumstances of under-nourishment such as I have indicated, at this time of day is the best meal available for ameliorating the condition. Bread is the base of the diet of the less fortunate classes; indeed it is the base of diet of the young of all classes. It is the one thing which the children of the poor receive when everything else fails, and is the last to disappear in the face of absolute want. Bread is, therefore, the lowest grade of food in a sense; I do not mean in nutritive value; the next thing above it is bread with fat in some form, commonly known as 'a piece.' A child of necessitous parents is found to be under-nourished, and is invited to breakfast at school upon a dietary just above the lowest level, with the addition of a half-pint of milk; he returns home at mid-day to the same fare, which is again provided for his evening meal. If he is in good health generally, with digestive powers undebased by a long course of unsuitable food, the result of securing during the day an addition to the quantity merely of the kind of food which he will get anyhow may and does produce satisfactory results, that is to say, if the deprivation at home is of quantity only. But for many children the need is different. What they require is a difference in quality and the provision of a meal which is superior in character and more readily dealt with by an enfeebled stomach. There is need not of more of the base, but of some of the embellishments of a dietary. It is also noteworthy that many children have little or no appetite for an early morning meal. It commonly happens that those who attend school breakfasts fail to consume their two slices of

bread at the time, and either reserve one for later consumption, or, if living in the immediate vicinity, take it home to be used, I think, in some instances, for others of the family under school age. The want of appetite no doubt results from some general conditions of the home life, but it is beside the question to discuss the causes, which are not susceptible of present remedy. But it materially affects the question of the most suitable time of day for provision of meals. In my opinion, more uniformly satisfactory results would ensue upon the provision of a meal such as dinner of a character similar to that enjoyed by the children of those more favourably situated. The children would then receive those constituents of a normal dietary, which they are not at the time getting in their homes, and at a time of day when all the under-nourished are best able to relish and gain the maximum advantage from it. There is the further advantage that it is practicable to provide dinner of, say, stewed meat or boiled fish with potatoes and bread, and possibly some form of pudding occasionally, at a much lower rate proportionate to the actual cost in practice of a similar meal in the home than a breakfast as now supplied. If the parents pay the cost of the meal, there is little advantage in a breakfast, but much gain in a dinner obtained at the cost of the Committee. If meals must be provided, it is better to supply a meal which is practically certain to do good than one the advantage of which is, for many, slight and problematical."

#### SCHOOL BUILDING AND PLANNING.

The recognition of the imperative need of adequate ventilation and lighting has led to the evolution of new types of school buildings, and new methods of school planning are now being adopted which might be taken into consideration when new schools are to be built.

Particularly interesting is the quadrangle school, which is now the general type adopted in the State of Victoria, Australia. A school upon this plan is now under construction by the West Riding of Yorkshire County Council at Maltby, near Doncaster. The various departments are grouped round an open grassed quadrangle, and are provided with a glazed lean-to roof corridor. The classrooms open upon the corridor by sliding doors, so as to secure thorough cross ventilation, and, at the same time, the corridor supplies adequate shade and cool during the hot weather, and protection from wind and rain, so that there is ample accommodation for playground classes.

Where the site does not admit a school of this kind, the provision of a school of the "Staffordshire type," *i.e.*, built upon the separate pavilion system, might be considered.

Another point worthy of consideration is the substitution of oblong classrooms (with a proportion of length to breadth of 5 : 3 or 3 : 2) in place of the square classrooms, almost universal in England but discarded in other European countries. The gain in general illumination and in the proportion of window space to floor space by such a ground plan is very great. For the walls an *eau de Nil*, or Chinese white, is preferable to the shade of green, at present in use, and a leadless paint (which on that account will not be blackened by chemical action) should be used as far as practicable for beams and woodwork.

#### INVESTIGATIONS ON VENTILATION.

A series of investigations has been conducted by Dr. A. Ashkeny, B.Sc. (Public Health), the scope of which was the determination of the efficiency of various systems of ventilation used in the Elementary Schools.



N.B.—The columns represent in each case the average results found in several classrooms in each school under the different conditions stated

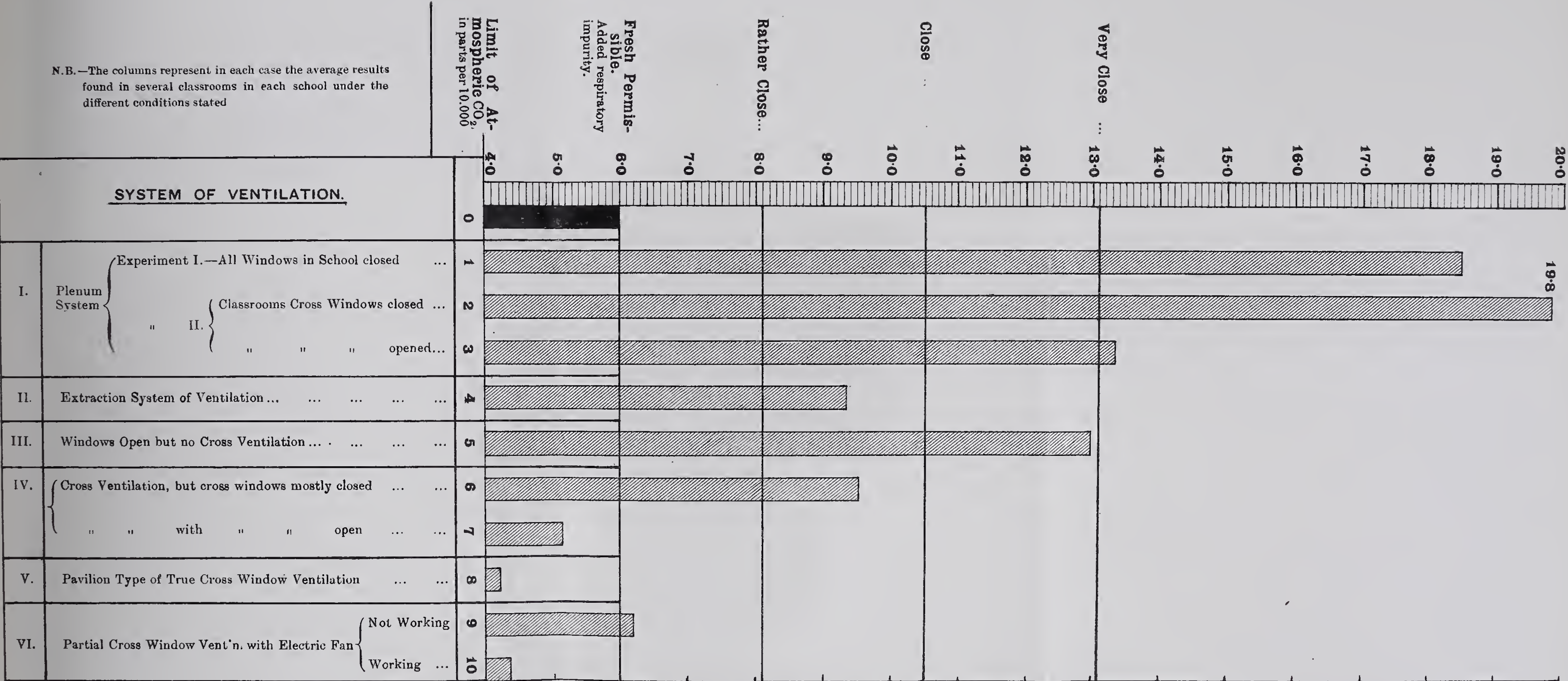


DIAGRAM showing CO<sub>2</sub> content of air in Classrooms under different Systems of Ventilation.





The schools investigated were :—

I.	{	Alum Rock Road Council ... ..	...	...	...	Plenum Systems.
	{	Conway Road Council ... ..	...	...	...	
	{	Wattville Road Council ... ..	...	...	...	
II.	{	Leigh Road, window inlets and fan, and flue at base of Tower outlet ... ..	...	...	...	Extraction.
III.	{	Windsor Street Council ... ..	...	...	...	No Cross Ventila- tion.
	{	Erdington C.E. ... ..	...	...	...	
	{	St. Clement's C.E. ... ..	...	...	...	
IV.	{	Fox Street Council ... ..	...	...	...	Partial Cross Ven- tilation into other classroom, hall or passage, etc.
	{	Aston Lane Council... ..	...	...	...	
	{	Bloomsbury Council (partial Central Hall type)	...	...	...	
	{	Windsor Street Council ... ..	...	...	...	
	{	Slade Road Girls' Council (into passage)	...	...	...	
	{	Loxton Street Council (Central Hall with Gallery)	...	...	...	
	{	Cromwell Street Council (Central Hall)	...	...	...	
V.	{	Sladefield Road Council ... ..	...	...	...	Cross Ventilation and electric fan.
VI.	{	Slade Road Boys' Council .. ..	...	...	...	Pavilion type of ventilation.

The enquiry included :—

(1) Estimation of  $\text{CO}_2$  content of the air in the classrooms by Davies' apparatus.

(2) Calculation of the relative humidity of the air.

(3) Frequency of change of air per hour calculated from anemometer readings.

(4) Exposure of gelatine plates and subsequent incubation at  $18^\circ\text{C}$ .

(5) Calculation of available open window area and of other openings available for ventilation, number of persons present in classroom, etc.

The experiments were conducted in a uniform method in all the schools. The classroom was occupied for at least half-an-hour before testing. The apparatus was placed on a desk in the middle of the room, and care was taken so that no child was nearer than 6ft. from the apparatus. In the larger schools twelve or more rooms were examined; in other schools six to eight.

No notice of the visits were sent to Head Teachers, and the examinations were conducted with the state of ventilation actually found in use.

Test rooms likely to give the best ventilation for the type of school under investigation were also examined.

The bacteriological work was carried out in the University Bacteriological Laboratory through the kindness of Professor Leith and his staff.

Want of space forbids a description of the details of these investigations, but the appended diagram shows quite clearly the relative merits of the types of ventilation investigated. The conclusions to be drawn therefrom are that the Plenum System (columns 1, 2 and 3) compares very unfavourably with other systems (columns 4 to 8), and that the deficiency may be rendered even worse by opening the windows, which are too small of themselves to give efficient ventilation. The efficacy of the mechanical system depends entirely upon a uniform regulation of the currents of air throughout the whole building. While it is true that by opening the windows in a given classroom a certain degree of improvement accrues in the air of that classroom, yet the additional exit for the air thus offered short-circuits the current of air passing through the main duct, and thereby reduces the amount of pure air available for the other rooms, with a corresponding increase

in the degree of vitiation. The same considerations apply whenever the doors are opened. Theoretical considerations would therefore seem to demand hermetically sealed doors as well as windows the whole time the school is in session. The Plenum System demands from the engineer-in-charge, in addition to his mechanical knowledge, a knowledge of the theory and principles of ventilation.

A system which demands as a condition of its working a closed window fails to inculcate one of the fundamental principles of hygiene. Columns 4 to 10 in the diagram emphasise the importance of the following points :—

(1) The necessity of a large window area available for opening.

(2) The great importance of efficient cross ventilation, even if the windows open into another classroom, hall, or corridor. As a room is sometimes used for two classes, *e.g.*, combined singing lessons, the available cross ventilation should be considerable.

(3) The need for a simple but efficient mechanism for opening the windows. Even when the available open window area is considerable this is often not used, because the mechanism has failed (cords broken, etc.). The provision of some form of casement which allows the greater part of the window area to be converted into an open-air inlet (*e.g.*, casements swinging on vertical pivots through an arc of  $90^{\circ}$ ) would, without doubt, prove a solution of the difficulty of ventilation, and would greatly minimise the risks to health attendant on some of the present systems.

## PLAYGROUND CLASSES.

A number of playground classes have been held, but as there is no special provision of the simple kind of furniture required (*e.g.*, chairs and movable tables), the use of the playgrounds has been limited. The contiguity of the covered playgrounds to the latrines in many schools, where the conditions are otherwise satisfactory for the purpose, is also a serious drawback.

The following school playgrounds appear to be especially suitable for the purpose :—

Nechells Council	Selly Park Council
St. Joseph's R.C.	Upper Thomas Street Council
Moseley C.E.	Bloomsbury Council
Tindal Street Council	Windsor Street

Several schools have very suitable flat roofs, which could be converted into roof classrooms, with great advantage to the children. The provision for such a class at Cotteridge Infants' Council School is now under consideration. At College Road, Yardley, there are three roofs which would make ideal roof classrooms. There are in attendance at both these schools a number of delicate children whose parents have moved into the district for the sake of their children. Special consideration for these children is desirable.

The Open-Air work carried on at Ward End School has been mentioned in a previous Report. Through the kindness of Mr. S. Lloyd, classes from Christ Church School, Sparkbrook, have been held in the grounds of the " Farm," Sparkbrook, each class spending a half-day in the open periodically.

“ SANATORIUM ” PLAYGROUND CLASS AT BLOOMSBURY  
SCHOOL.

An exceedingly valuable playground class for debilitated children has been carried on in Bloomsbury School, Infants' Department. When the school was medically inspected in September Dr. A. Ashkenny found a considerable number of debilitated children, either in attendance at school or making very intermittent or spasmodic attendance. Thirty-five children were selected by him, and a playground class was constituted on 14th October. Despite the poverty of many of the parents, Miss Shrewsbury, the Head Mistress, received their keenest co-operation, and through gifts of rugs and blankets, deck chairs, wood for trestle tables, etc., from various friends was able completely to equip the class for out-door life during the winter. For the coldest weather warmed firebricks (another gift) have been used as foot-rests. The class has been held under the covered playground. The children have been weighed and examined fortnightly. The rise of weight has been very marked, and the improvement in the general condition of the children has been most satisfactory.

This pioneer experiment has been a most praiseworthy one, and illustrates the great benefits which can be obtained with the simplest means without expense. It is to be hoped that the “ Sanatorium ” Class will be continued, and will form the first of many similar classes in the schools.

The Playground Classes Sub-Committee have suggested that experimental playground classes shall be organised between May and October in five schools. In

three, one class is to be taken in the playground throughout the season, and in two others classes will be taken for a month in rotation. The health aspect of these experimental classes is thus subordinate to that of the general organisation of the curriculum, and it is difficult to know what purpose will be served by the medical examination of these children which has been suggested. No selection of children who specially need open air is to be made, and the conditions of nutrition vary so greatly in the children forming any class in school that no judgment as to the success of the scheme can be based upon any physical examination.

In two non-provided schools—St. George's C.E., Great Russell Street, and St. Michael's R.C.—the use of the adjoining disused burial grounds forms a valuable addition to the open-air facilities of these schools. Disused burial grounds already form the playgrounds of All Saints', Hockley, and St. Peter's R.C., Broad Street. The burial ground at Holy Trinity, Bordesley, has been suggested as affording an opportunity for a similar use.

#### DESKS AND SEATING.

The following Report, drawn up by Dr. Ernest Hill, is the result of an enquiry into the type of desks in use in the schools asked for by the Hygiene Sub-Committee :—

“In the Report of the School Medical Officer for the year 1910 (pages 55-56), some observations were made on the matter of desks and seating. It will suffice now to recall the facts that the seat should be wide enough and so placed that two-thirds of the length of the thighs rest upon it, and that the child should sit up to his work. This cannot be secured if the front margin of the seat is



placed more than an inch from a perpendicular dropped from the near edge of the desk—the distance is now commonly expressed as plus so many inches. The best desk is that in which the seat comes a little nearer than the perpendicular, that is, lies beneath the desk. This is termed a minus desk or ‘modern type.’ The next best type is that in which the perpendicular is just reached, and is known as a zero, that is, neither plus nor minus. Anything greater than one inch assuredly leads to a child ‘sprawling’ over the desk when writing, that is to the assumption of faulty attitudes, which are productive of deformity and of early fatigue, and cause the eye to be brought too near to or placed at a side angle to the work, with resulting damage to eyesight. Reference to the table shows that 53 per cent. of infants and 63 per cent. of seniors are seated at desks in which the edge of the seat is more than one inch from the perpendicular dropped from the edge of the desk, and that so many as 35 per cent. of seniors are seated at desks with the edge of the seats four inches or more from the perpendicular. The percentage of desks is not quite the same because some desks are made to accommodate more than two children. In the Infant Schools 52 per cent. and in the Senior Schools 63 per cent. of the desks are of the bad type described.

“It is undesirable, mainly for administrative reasons, that more than two should be seated at one desk, but only 6·9 infants and 5·2 seniors are injuriously affected by this.

“Each seat ought to have a back attached up to the level of the shoulder blades—90 per cent. of the infant seats have a suitable back rest, 41 per cent. of the seniors are not so provided.

## SUMMARY OF INVESTIGATION.

	Infant Schools.	Upper Schools.
<i>No. of Children affected</i> ... ..	8,705	14,864
At satisfactory desks ... ..	46.3 %	35.9 %
At unsatisfactory desks ... ..	53.1 %	63.8 %
At desks without backs ... ..	10.9 %	41.7 %
Seated with more than one companion...	6.9 %	5.2 %
<i>No. of Desks</i> ... ..	4,371	1,115
Satisfactory desks ... ..	47.8 %	36.1 %
Unsatisfactory desks ... ..	52.6 %	63.5 %
Without backs ... ..	9.9 %	39.0 %
Seating more than two ... ..	3.5 %	2.4 %

“The figures here presented are a summary of reports on the conditions in 33 schools, in which 23,569 children are taught, which have been inspected since the summer holidays. The tables show the percentage of desks with certain characteristics and the percentage of children affected thereby. The figures of the two tables do not accurately correspond, partly because, in a small proportion, more than two children are seated at the one desk, and partly because, in a few returns, there happens to be no special data given to enable the number of children to be ascertained. The number of desks were included in the tables, but no numbers of children to correspond were entered. The total of these is small.”

## REMAND HOME AND SHUSTOKE INDUSTRIAL SCHOOL.

By arrangement with the Committee of the Home, on each Wednesday I examine, in company with Dr. Boeddicker, Medical Officer to the Remand Home, the

children who have been admitted during the previous week. The information as to their mental development which is thus obtained is at times of value in the determination of the best means of dealing with individual children. In many cases, however, the child has been already committed, and it is then too late to make use of the information. Thus feeble-minded children have been committed to Industrial Schools whom it has been subsequently found necessary to transfer to Institutions for the feeble-minded. The need for an effective examination prior to committal is reflected in the results of an examination carried out by me into the mental capacity of 20 boys at Shustoke. Of these, I considered six to be definitely mentally-defective (one of these had been noted when examined in the Remand Home to be "probably feeble-minded." He had also been already selected by the Head Teacher of his school for examination under the 1899 Act). One boy was an epileptic and another a "borderland" case. The examination opens up a wide field for investigation into the association of delinquency with mental or physical defect.

Ninety children were examined, of whom nine were found to be distinctly feeble-minded, six "borderland" cases (*i.e.*, a total of 16·6 per cent.), two epileptics, three children suffered from defective eyes, nine from bad nutrition, and one from deafness.

#### EPILEPTIC REGISTER.

There are now on the register 96 names of children who are examined every six months by me. A record is kept upon a special schedule at the school, upon which any entries as to mental progress, frequency of fits, etc., can be made. With accurate infor-

mation upon these points it becomes possible to select for Colony treatment such cases as may be suitable. The experience obtained by visiting the Colonies to which children have been sent from the City gives a very definite indication that only those children who show good mental capacity without intellectual occlusion should be selected for treatment at the existing Colonies. This careful selection of children has already proved its value by the satisfactory progress made by those children from the City who have been sent to the various Epileptic Institutions. An analysis of the records of 83 of the children (boys 46, girls 37) on the register gives the following results :—

Improving	...	...	41
In <i>statu quo</i>	...	...	9
Insufficient evidence	...	...	16
Bad	...	...	16
Dead	...	...	1

The age at which the fits are said to have begun is of some interest, viz. :—

0-2	13	...	6-7	0
2-3	9	...	7-8	2
3-4	10	...	8-9	2
4-5	6	...	9-10	5
5-6	7	...	10-11	4
			11-12	3

Thus in 62 per cent. of those cases in which the age of onset was noted, the fits had made their appearance before the age of compulsory school attendance.

#### DUST ALLAYERS.

*Dustless oils and dust-allaying materials.* It is much to be regretted that no further extension of the use of these materials has been made. Even if any real disadvan-

tage could be urged against their use, and if the hygienic results were problematical, the results of dust in the schools are so deleterious, and the application is so simple, that an extended trial would be advisable. There is, however, abundant proof of the great value of these preparations (see Report 1910, pp. 61 to 65) that it cannot be urged that the question is still in an experimental stage.

#### JUVENILE LABOUR AND THE MEDICAL INSPECTION.

No satisfactory system has been evolved whereby the finding of the School Medical Officers can be placed at the disposal of the Factory Surgeon, although in one or two instances cases have been referred to the Medical Department by the Certifying Factory Surgeon. Owing to the fact that the Medical Inspection of the leavers takes place only once in each year in each school (although the schools are re-visited three or four times for "following up") and the children's cards are sent in to the Care Committee four months before leaving, only a proportion (under 50 per cent.) of cards are specifically filled in by the Assistant School Medical Officers. A medical inspection, with the necessary invitations to parents, etc., causes such interference with the school routine that to examine leavers at the re-visits would be an unwelcome arrangement, and would entail a larger medical staff. The advice given by the School Medical Officers in the choice of a trade can only be negative, *i.e.*, it can specify such trades and occupations as are contra-indicated by the physical condition of the child, but it can only in the rarest instances be a positive direction to the choice of a particular form of employment. In the greater majority of cases the child is healthy, and in a comparative small number are there contra-indications. The simplest method of pro-

cedure would therefore seem to be to place the necessary remarks upon each medical schedule, and forward all medical schedules to the Central Care Department at the office, where the necessary information could be obtained as required, and, should the child obtain work of such a character as to bring him under the examination of the Factory Surgeon, the schedule could be forwarded to him. Such an arrangement would conform with the suggestions made in the Board of Education Circular, No. 813.

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### SPECIAL SCHOOLS.

The following figures give the number of children who have been dealt with under the Blind and Deaf Children and Epileptic and Defective Children Education Acts :—

*Children examined during 1912.*

Certified for Institutions for the Blind ...	5
Certified for Day Classes for the Partially- Blind ... ..	15
Certified for Schools for the Deaf ... ..	24
Certified for Institutions for Epileptics ...	7
Certified for Schools for the Mentally- Defective ... ..	226
Certified for Schools for the Physically- Defective ... ..	64
Imbeciles or Idiots ... ..	22
Certified for Open-Air School ... ..	130
<hr/>	
Total ... ..	493
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The number of children in the various schools and classes under the Special Schools Sub-Committee on 31st December, 1912, was as under :—

In Mentally-Defective Schools	...	...	903
In Mentally-Defective Residential Institutions (not including Industrial School cases)	...	...	20
In Physically-Defective Schools	...	...	223
In Deaf Schools	...	...	128
In Deaf Institutions	...	...	11
In Residential Blind Institutions	...	...	62
Attending Day Classes for Partially-Blind Children	...	...	51
In Epileptic Institutions	...	...	22
In Open-Air School	...	...	120
Total			1,540

#### UFFCULME OPEN-AIR SCHOOL.

Despite the unfavourable weather of the past year, the results achieved by the Open-Air School have abundantly fulfilled expectations. Since the opening in September, 1911, 243 children have been certified for admission. The causes of certification have been as follow :—

General debility	...	...	124
Anæmia	...	...	50
General debility and malnutrition	...	...	33
Chorea	...	...	9
Phthisis contacts	...	...	9
Tuberculous glands and debility	...	...	5
Lupus of old standing	...	...	2
Heart disease	...	...	3
Phlyctenular ophthalmia	..	...	2

Bronchiectasis	...	...	...	3
Tuberculous peritonitis	...	...	...	2
Rickets and anæmia	...	...	...	1
				<hr/>
Total	...	...	...	243
				<hr/>

Speaking generally, the minimum duration of attendance has been four months, but by far the greater number of children have remained there for longer periods, as may be seen from the following table :—

Under three months	...	...	...	11
Between three and six months	...	...	...	42
Between six and nine months	...	...	...	40
Between nine and twelve months	...	...	...	20
Over twelve months	...	...	...	10
Still in attendance	...	...	...	120
				<hr/>
Total	...	...	...	243
				<hr/>

In order to secure definite knowledge of the subsequent history of the children on return to the ordinary schools, each child has been re-examined by me at the expiration of three months. One of the safest indications of the general improvement in health, apart from the physical examinations, is the regularity of attendance.

During the year 77 children who had been in attendance three months or more at ordinary Elementary Schools since their return from the Open-Air School were re-examined. The results of the examinations may be classified as under :—

44 continued to maintain the improvement in health which they had shown at the time of their discharge.

12 made some progress, but could not be described as thoroughly satisfactory.

21 lost ground after their discharge.

The admission of a considerable number of what may be termed non-improvable cases when the Open-Air School was first established is to some extent responsible for the rather long average period of detention at the school. This average length of stay is likely to diminish with the class of child now being admitted, and will correspondingly allow a larger number of children to be dealt with each year. Three points of importance are thus brought out by the thus gained experience :—

1. That in the selection of cases the character of the home surroundings and the likelihood of an interested and intelligent co-operation of the parents is of prime importance. Without this there is little likelihood of permanent improvement in the health of the children.

2. That while the Open-Air School is of the greatest possible importance in the treatment of the so-called “ pre-tuberculous ” cases, when there is actual infection a different curriculum and a much more prolonged course of open-air treatment is required than can be given in a non-resident institution.

3. That there is a certain number of children for whom an open-air curriculum is necessary throughout the greater part of their school life if they are ever to be raised into a position of even comparative physical efficiency in after life. I have in previous reports and elsewhere urged the need of some special provision in the ordinary schools, and need not again reiterate the arguments for open-air classrooms and sanatoria classes.

## PHYSICALLY-DEFECTIVE SCHOOLS.

The number of children in the two schools for physical-defectives was 223. Those now in attendance may be classified as follows :—

Tuberculosis of					
Spine	...	...	...	...	35
Hip	...	...	...	...	38
Knee	...	...	...	...	15
Various	...	...	...	...	7
Infantile Paralysis	...	...	...	...	44
Spastic Paralysis	...	...	...	...	12
Pseudo-hypertrophic Paralysis	...	...	...	...	1
Various Muscular Dystrophies	...	...	...	...	4
Various Deformities (including Rickets, &c.)	...	...	...	...	38
Spinal Scoliosis	...	...	...	...	11
Congenital Dislocation of Hips	...	...	...	...	7
Congenital Abnormalities	...	...	...	...	5
Heart Disease	...	...	...	...	8
Various	...	...	...	...	4
Total					229

An examination of the teeth of these children has revealed a serious state of dental caries, which cannot fail to have a profound influence upon their general health, and may indeed form the one adverse circumstance which turns the balance against recovery. The dental treatment of all children suffering from tuberculous affections as soon as practicable after certification for admission to the Physically-Defective Centres, and a periodic re-examination, will do much towards the improvement of their powers of resistance, and will allow them to gain greater benefit from the food provided.

While these Day Schools perform an exceedingly valuable service for a certain class of handicapped children, it will, I think, be recognised that, for another large class, this service is at present subject to certain limitations, *i.e.* :—

1. *The home environment.* Where this is unsatisfactory, either by reason of the poverty of the parents or the illness (consumption) of another member of the household, the advantages of attendance are to a large extent neutralised, and while a certain amount of education is acquired it is doubtful if the children are placed on a sufficiently sound basis of physical health to maintain their resistance to the disease. This remark necessarily refers to the group of children infected with tuberculosis.

2. *The entire absence of co-operation with Remedial Institutions.* At present the children are for the most part intermittent or continuous out-patients at either a General or a Special Hospital, and some of them are from time to time admitted as in-patients. The children are thus under two authorities, whose outlook is by no means necessarily identical, *viz.*, educational and remedial. Little or no steps can be taken to see that the advice of the Surgeon is carried out between the visits to the Out-Patient Departments.

A certain number of the tuberculous cases are fortunate enough to secure admission to The Woodlands, under the Cripples' Union, where a teacher, supplied by the Education Committee, gives some teaching each day. There are from 42 to 50 children, divided into four classes,

but as these are for the most part in bed and in different wards it is not possible to give each child more than an hour's instruction each day.

The whole weight of experience of the Institutions for Cripples in Denmark, Norway, Sweden, and Germany goes to prove that true economy of labour and efficiency consists in the unification of effort, so that each Institution for Cripples is tripartite, having under one roof and one administration educational, clinical, and trade training *curricula*. The Treloar Home at Alton supplies a model organisation on these lines, and has rightly earned a European reputation.

Granting the establishment of an Institution of this kind for the reception of tuberculous children, there would still be ample scope for the Day Cripple Schools for children who suffer from other forms of physical handicap—paralysis, loss of a limb, deformities, heart disease, and other types of disease which render a child unable to attend an ordinary school without risk of injury.

Many of these cases can be greatly improved by proper remedial exercises, supervised by a qualified medical gymnast. At the present time the children in attendance have little or no physical exercises of any kind. (Some may attend the Orthopædic Hospital periodically for the purpose, but sporadic attendances of this kind cannot possibly be regarded as a complete solution of the problem.) Indeed children with lateral curvature of the spine who are presented for examination as candidates for the Physically-Defective Schools would, in some cases, obtain greater advantages by continuing in the ordinary schools, owing to the physical exercises carried out there.



The disadvantage, however, is that the majority of the desks of the Elementary Schools tend to increase the deformity. The provision of some simple chairs with arms and with the back and seat properly tilted in each department would, to a great extent, remove this disability.

#### MENTALLY-DEFICIENT CHILDREN.

At the end of the year there were 903 children on the registers of the eight Special Schools. The scheme of class organisation outlined in the Report for 1911, which is in force in Sherbourne Road and Gem Street Schools, has proved its practical utility. Opinion is unanimous that the new curriculum has awakened the faculties of the children, and has rendered them more responsive. This scheme has a somewhat special interest in view of the various points of resemblance which it shows to the so-called Montessori methods, in so far as these are based upon the principles laid down by Séguin. The points upon which the systems most closely approximate one another are the prominent place in the curriculum which is given to sense-training, the stimulation of the interest by practical handwork, and the inculcation of personal cleanliness. The scheme attempts to embody the application of the truth enunciated by Dr. Fernald :—"It is idle to attempt to arouse the dormant faculties by forcing upon them (*i.e.*, feeble-minded children) the abstract truths of ready-made knowledge. . . . The child must be made to see, to touch, to observe, to remember, and to think."

*Theoretical Considerations.*—In the Report for 1911 attention was drawn to the case of children who show a deficiency in one or other of the special faculties, *e.g.*, in the capacity for acquiring the ability to read or to form arithmetical concepts. Much light has been shed

upon these cases by recent investigations and the deductions which may be drawn therefrom. The aptitude for making mental acquisitions or for the performance of intellectual acts appears to depend upon two distinct factors, viz. : (1) The "general intelligence" which is correlated with the general energy of the whole cortex of the brain, and (2) the "special faculties," each correlated with the activity of a special system of nerve cells in certain areas of the brain. Every mental act no doubt depends upon both of these factors, and both seem to depend to a large extent upon innate and hereditarily transmitted conditions of the brain cells. In many cases the special faculties appear to be complete distinct functional units; these may possibly be found to conform to the laws of inheritance enunciated by Mendel. Thus a facility in learning to read by no means connotes an equal facility in the formation of arithmetical concepts any more than it connotes an equal facility in appreciating colour or musical tones.

If both the general intelligence and these specific faculties are developed to an exceptional degree, the result is "talent," and the hereditary transmission of "talents" is beyond dispute. If, however, the general intelligence is reduced while one of the special faculties is highly developed, the so-called *idiot savant* results. Records of imbeciles who show a remarkable aptitude for calculation or for drawing, or an extraordinarily retentive memory, are common. One of the children examined by me recently, aged 10, a low grade idiot unable to say more than a few words, showed a remarkable capacity for the recognition of musical notes. Conversely, the general intelligence may be good, while the specific faculty for word or number concepts is feeble, and the person is word-blind or unable to manipulate figures.

These constitute the so-called "feebly-gifted" children.\* If one or other of the special faculties is highly developed, while the general intelligence is average, the linguist or calculator results. The problem is further complicated by another factor, viz., the rate of development and growth of the different faculties. Thus, early development of both general intelligence and the special faculties produces the precocious children, musical prodigies, boy calculators, etc., the so-called "*Wunderkinder*." (In the case of the calculating children there is often a reduction in the general mental calibre; many of these phenomena have shown a very mediocre intelligence.)

If, on the other hand, the development of these faculties is delayed, we get the dunce or dull person. It is here that the hereditary transmission of mental educability makes itself evident, for these faculties conform to the general law that an acquirement of recent origin shows greater variability than one which is more ancient. This is well exemplified by the case of races which have only recently come into contact with western learning. The average native of Uganda, for instance, cannot form any arithmetical concepts higher than that of simple fractions, because his innate capacity in this direction is at present purely potential. The American negroes, on the other hand, who for several generations have been in contact with civilisation, show greater capacity with much wider variability in the degree in which it is present. On the other hand, India, with an ancient civilisation and store of learning, has produced mathematicians of the highest order.

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\* The term "feebly gifted" appears to have been introduced by Mr. C. S. Loch in the book "*The Feeble Minded*," published by the C.O.S. in 1893. Its re-introduction is to be strongly recommended to mark the distinction between the two types of children; a distinction which is clearly made in Germany and Scandinavia by the terms *Schwachbegabte* and *Späktbegavete* (feebly gifted) in contra-distinction to *Schwachsinnige Kinder* and *Aandsvake Børn* (feeble minded children).

These facts are in strict conformity with the admittedly true generalisation of Von Baer, that "Ontogenesis repeats phylogenesis," *i.e.*, the development of the individual is a reflection of that of the race from which he has sprung. Three centuries ago, covering a period of only ten generations, the majority of the ancestors of the present population were untaught in reading, spelling, or calculation. It can, therefore, hardly be a matter of surprise that we find great variability in the rate with which these faculties make their appearance in different individuals or in the degree of completeness with which they are acquired. In a large number of children the capacity for making these acquisitions remains for a longer or shorter time in an undeveloped or *larval* form, while the general intelligence may meanwhile develop at a normal rate.

I have dealt with this side of the question in some detail, because a clear understanding of the mental factors involved is necessary, and this view of the problem has as yet received little attention.

*Practical Application.*—What is the practical outcome of these facts, and how do they affect our attitude towards the children presented for examination? In the case of the feeble-minded child there is a general diminution of the general intelligence as well as of the specific intellectual faculties. Our efforts should, therefore, be directed towards a discrimination between these two kinds of mental development, and the object of the mental tests employed should be to measure not so much the intellectual acquisitions already made as the inborn all-round efficiency which we have described under the term "general intelligence." It is the more important when we remember that the majority of children presented for

examination under the Education (Defective and Epileptic Children) Act are selected by their teachers because they have failed to acquire knowledge at the same rate as the other children of the same average age. In view of the social disabilities likely to accrue to a child certified for education under this Act (which are likely to be still more definite if the proposed Mental Deficiency legislation becomes law) it is of the utmost importance to determine whether the intellectual retardation is temporary, and therefore transient, or due to an inherent inferiority of the separate faculties which will render them merely less capable than their fellows, but will still allow them to maintain a humble position in their own sphere of life, or whether it is due to a reduction in the general intelligence sufficient to render them unable to conduct themselves or their affairs with ordinary prudence. This is only another mode of stating "that the term *feeble-minded* cannot always be applied to children from the mere fact of their showing any given amount of intellectual retardation as measured by any scale of tests . . . feeble-mindedness, like insanity, involves much more than the intelligence; its correct diagnosis often involves the expert consideration of various clinical phases, and cannot be made by the automatic application of any scheme or scale."\*

The knowledge revealed by an examination may be an indication of the current mentality, but is not a final indication. It is the indication of mental potentiality which must be sought for.

The justification of these contentions is to be found in the results of an investigation into the subsequent progress of 159 children presented to me for special

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\* Huey. *Backward and Feeble-minded Children*, p. 8.



examination under the Act. Of these, 81 had made satisfactory progress, 34 had left school, and in only 44 was the condition still doubtful. Thus a percentage of 64·8 of those whose subsequent progress was known had made such progress as to warrant their education in an ordinary Elementary School. If the line of discrimination had been less rigid and the examination less searching, it is quite probable that a large number of these feebly-gifted, retarded, or pseudo-defective children, would have been certified as mentally-deficient.

As regards the capacity to acquire the power of reading, the following figures are of interest, relating to 53 children in attendance at the Sherbourne Road Special School. The majority were over 12 years of age, and had been in the school for more than two years, some as long as four years or more :—

No letters	...	...	...	...	...	1
Few letters only	...	...	...	...	...	20
Few words and letters	...	...	...	...	...	5
Words of two or three letters	...	...	...	...	...	3
Unable to read a Std. I. Primer	...	...	...	...	...	24
						<hr/>
Total						53
						<hr/>

The real difficulty presented by the “moral deviate” consists in the fact that it is not lack of knowledge nor even lack of intelligence which produces the individual who persists in anti-social or immoral acts despite exhortation, reprimand, or punishment. Children of this type are seen amongst those examined at the Remand Home (see page 50) more often than in examinations under



the Act, though doubtless many find themselves in the Remand Home rather from actions due to that strange and passing perversity of children than from a true moral imbecility. A further complication of the problem is the difficulty of dealing with these children effectively. Their presence amongst the facile and ill-balanced children of a Special School is apt to be a moral danger. This statement applies also to children occasionally met with whose defect is one of dementia or insanity rather than feeble-mindedness. There are, however, no institutions primarily intended for such cases, nor do the Asylums afford the most satisfactory conditions for them.

Another group of children whose lack of mental development is due to other causes is frequently met with. Thus an Infant Mistress writes :—

“ There are constantly between 30 and 40 children away [each week of the year through sickness of some kind other than epidemic sickness, besides many others who attend irregularly, scarcely ever making a full week’s attendance, through the same cause. As a consequence these children have so many breaks in their school life that, by the age of seven, they have as a rule acquired very little knowledge. They are not only backward in their work but, owing to physical weakness when at school, cannot learn quickly, and what they do learn, when illness comes again, they quickly forget.

There are many children too who are delicate—one cannot give any definite ailment—and who, through this delicacy, caused often by bad home surroundings, improper and insufficient feeding, bad boots, etc., are more or less always listless, tired, and seemingly indifferent to their work. They lack energy and their interest is hard to arouse, and if aroused, still harder to hold for any length of time. Their attention is ever wandering and one has

to put a thing in half-a-dozen different ways and illustrate very freely before any idea of what is being talked about penetrates to their understanding.

I find from experience that a large proportion of children seem to have a constant run of sickness, epidemic or otherwise, from the time they start school until about seven years of age, and it is a very noticeable fact that a goodly number of these children do not shew any particular aptitude for learning until they have reached that age. I have noticed this fact over and over again, and have marvelled at the progress made by children in one year, after they have passed their seventh birthday, who, previously to that, have almost seemed to be mentally deficient. I have one case in mind at the present moment of a boy who passed into the Upper Department last August. He was entered into the Infants' when about four years old, but seemed absolutely incapable of learning anything. He did manage to write a little, but that was all. He was delicate and always seemed a miserable sort of boy, constantly crying and out of sorts. He passed from class to class, but with very little result. He was placed in Standard I. when turned seven, and suddenly started to learn and, by the end of the school year, was one of the best in the class. He could read fluently, do mental arithmetic accurately, and composition very well. This is only one of many cases which have come before my notice. I have one or two in school now."

These are the children who should be allowed to continue to remain in the Infants' School, even though they have reached their seventh year, for their mental attainments cannot be judged by any age standard.

#### DEAF CENTRES.

There are 128 children in attendance at the three Deaf Centres. The importance of making use of the

earlier receptive years of childhood in the case of the deaf is now becoming more generally recognised. Every effort has, therefore, been made to secure the attendance of children at the earliest possible age. There are 22 children in attendance under seven years of age :—

			Moseley Road.		Gem Street.
Under 5	...	...	3	...	0
5—6 years	...	...	5	...	2
6—7 years	...	...	7	...	5

In this connection the Report on Moseley Road Centre made by the National Association of Teachers of the Deaf is worthy of quotation :—

“The most important thing which strikes us in this school is the beneficial results of getting the children into school at an early age. In the youngest division were fifteen babies, 3 under five, 5 just turned six, and 7 nearly six. The language of these children was natural and spontaneous. They repeated nursery rhymes with apparent enjoyment and the speech used was good. The children are clearly gaining an enormous advantage in the progress attained at this early age. Speech was coming to them more naturally and more easily than it does to those children left untrained till the age of seven.”

The ventilation of the baby classroom at Moseley Road Centre has been much improved by the insertion of hopper windows. The accommodation is somewhat cramped, and the building would lend itself admirably to the addition of an open-air classroom on the south-eastern side, in the angle between the “baby room” and the first class room.

At Gem Street the accommodation is inadequate for the present needs of the school, the playground is cramped, and the whole school is sunless and depressing.

## PARTIALLY-BLIND DAY CLASSES.

There have been 37 boys and 34 girls on the registers of these classes at the Blind Institution during the year, of ages varying from 7 years to 16 years, although there have never been more than 46 children in actual attendance. At the end of the year there were on the books 25 boys and 26 girls. Of these, 12 boys and 8 girls are being taught by blind methods, and 13 boys and 18 girls by sighted methods, the reading books having as large a type as is obtainable.

The arrangement for partially-sighted children to be taught in a class by themselves for reading and writing has brought about marked progress in these subjects; the children in this class are divided into two sections, which has been found especially helpful to those pupils who have had very little education before attendance at the classes. In all other subjects the whole of the children in the school are classified according to their ability, and the general progress of the day scholars in these subjects has been satisfactory.

During the year more day scholars have received instruction in typewriting, and have made good progress.

The hand work is varied, being graded to suit the children's needs—the boys take carpentry, piano tuning and repairing, boot making, brush making, basket making, or mat making; and the girls take knitting, canvas work, raffia, chair re-seating, cane work, paper folding, or clay modelling. It is hoped to commence housewifery and laundry for the girls very shortly, with a view to finding situations as domestics for those possessed of a good measure of sight. Gardening has also been correlated with the Nature Lessons, and the pupils have planted and watched the growth of flowers, vegetables, and bulbs.

One boy over 16 years of age is now being trained in the Mat Department, and will eventually become a mat worker; the Birmingham Guardians are responsible for the fees for his training.

A careful watch is kept upon the children who suffer from progressive myopia, and their eyes are periodically examined. When found necessary, new glasses have been prescribed for them by the Education Committee's Ophthalmic Surgeon.

One of the chief difficulties in the organisation of classes of this kind arises from the fact that a certain number of children have already advanced up to the higher standards of the schools from which they have been drawn. For these a preponderatingly technical and manual training should be the chief aim, otherwise but little value will accrue to them by their attendance.

There are two disadvantages in the present system :—

1. The distance and comparative inaccessibility of the Institution from the more populous parts of the City. This necessitates long daily journeys for some of the children. There is a sufficient number of children in the Aston and Nechells area to form the nucleus of a Partially-Blind Day Class on that side of the City.

2. The need of safeguarding the Institution from the introduction of infectious or contagious disease often renders it necessary to exclude children from attendance who could be allowed to attend a class which is not associated with a Residential Institution.

GEORGE A. AUDEN, M.D., D.P.H.,  
*School Medical Officer.*

REPORT ON MEDICAL INSPECTION  
OF  
CHILDREN ATTENDING SPECIAL SCHOOLS  
FOR THE YEAR 1912.

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MENTALLY-DEFECTIVE.

(See Table I.)

A very much larger number of Special School children has been examined this year than in any previous year.

There is, on the whole, an improvement in cleanliness among the mentally-defective, the proportion of verminous children being less than in former years. There is also a general, though slight, improvement in nutrition, clothing, and boots.

There are more of all forms of eye defect, and there is also an increase in the number of children possessing bad teeth. This is a serious feature, as there seems to be much difficulty in arranging for their treatment at any of the Dental Clinics, except those children attending Fashoda Road Special School.

Parents were present in almost exactly the same proportion as last year, and showed much interest. There were no cases of refusal.

I was much assisted in all the schools by the Head Mistresses and by the Bath Attendants.



## PHYSICALLY-DEFECTIVE.

*(See Tables II. and III.)*

In these schools the nutrition was rather less good than last year. Clothing and foot gear showed an improvement. The proportion of verminous cases was slightly higher.

Defective teeth, as usual, head the list, the number showing an increase over last year.

The proportion of tuberculous cases shows a marked increase over that of last year, infantile paralysis being the next most common cause of the crippled condition.

As in other schools, I received much help from the Head Teachers and School Nurses.

Fewer parents attended than in 1911.

## DEAF.

*(See Table IV.)*

Among the deaf, nutrition was rather less good than last year; clothing and boots were better. There were fewer verminous cases, but more of nits in the head.

Defective vision and eye defects in general were less numerous than last year.

Fewer parents attended than in 1911.

As before, I received every assistance from the Head Teachers, and in Gem Street and Whitehead Road Schools they helped to undress and dress the children as there was no woman in attendance.

C. E. O'CONNOR, M.B., Ch.B. (Edin.),

*Superintendent of Special Schools,*

April, 1913,

## SPECIAL SCHOOLS MEDICAL INSPECTION, 1912.

TABLE I.

## MENTALLY-DEFECTIVE.

Number examined 421.

			Nutrition.		Clothing.		Boots.
Good	...	...	163	...	195	...	234
Fair	...	...	173	...	149	...	89
Bad	...	...	85	...	77	...	99
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Defective Teeth	...	...	...	...	...	...	274
Enlarged Tonsils	...	...	...	...	...	...	82
Defective Vision (252 examined)	...	...	...	...	...	...	76
Speech Defects	...	...	...	...	...	...	76
Defective Hearing	...	...	...	...	...	...	55
Chronic Discharge from Nose	...	...	...	...	...	...	48
Squint ...	...	...	...	...	...	...	33
Discharging Ears	...	...	...	...	...	...	31
Eye Defects (apart from Vision)	...	...	...	...	...	...	25
Verminous	...	...	...	...	...	...	22
Nits only	...	...	...	...	...	...	21
Rickets	...	...	...	...	...	...	18
Skin Diseases	...	...	...	...	...	...	18
Lung Affections	...	...	...	...	...	...	16
Paralysis	...	...	...	...	...	...	8
Heart Affections	...	...	...	...	...	...	6
Epileptic	...	...	...	...	...	...	2
<hr/>							
Parents present	...	...	...	...	...	...	264
Advice given	...	...	...	...	...	...	167

## SPECIAL SCHOOLS MEDICAL INSPECTION, 1912.

TABLE II.

## PHYSICALLY-DEFECTIVE.

Number examined 133.

	Nutrition.		Clothing.		Boots.	
Good ... ..	30	...	88	...	87	
Fair ... ..	50	...	33	...	26	
Bad ... ..	53	...	12	...	20	
<hr/>						
Defective Teeth ... ..	...	...	...	...	95	
Defective Vision (93 tested) ... ..	...	...	...	...	26	
Enlarged Tonsils ... ..	...	...	...	...	25	
Lung Affections ... ..	...	...	...	...	12	
Eye Defects (apart from Vision) ... ..	...	...	...	...	8	
Defective Hearing ... ..	...	...	...	...	7	
Discharging Ears ... ..	...	...	...	...	6	
Squint ... ..	...	...	...	...	5	
Chronic Discharge from Nose ... ..	...	...	...	...	4	
Speech Defects ... ..	...	...	...	...	4	
Rickets ... ..	...	...	...	...	4	
Verminous ... ..	...	...	...	...	3	
Nits only ... ..	...	...	...	...	3	
Skin Diseases ... ..	...	...	...	...	2	
<hr/>						
Parents present ... ..	...	...	...	...	104	
Advice given ... ..	...	...	...	...	54	

## SPECIAL SCHOOLS MEDICAL INSPECTION, 1912.

## TABLE III.

PHYSICALLY-DEFECTIVE—*continued*.

Number examined 133.

*Diseases or Defects for which Certified.**Tuberculous.*

Spinal Caries	...	...	...	24
Tubercle of Hip-joint	...	...	...	14
„ „ Knee-joint	...	...	...	8
„ „ Ankle-joint	...	...	...	2
„ „ Elbow-joint	...	...	...	1
„ „ Fingers	...	...	...	1

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 Total number of Tuberculous cases 50
 

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*Non-Tuberculous.*

Infantile Paralysis	...	...	...	22
Rickets	...	...	...	19
Various Deformities and Defects	...	...	...	11
Talipes (Club Foot)	...	...	...	7
Heart Disease	...	...	...	6
Congenital Dislocation of Hips	...	...	...	5
Scoliosis (Spinal Curvature)	...	...	...	4
Hemiplegia	...	...	...	4
Spastic Paralysis	...	...	...	3
Pseudo-hypertrophic Muscular Paralysis	...	...	...	2

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 Total number of Non-tuberculous cases 83
 

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Tuberculous	...	...	...	50
Non-tuberculous	...	...	...	83

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 Total number examined ... 133
 

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## SPECIAL SCHOOLS MEDICAL INSPECTION, 1912.

TABLE IV.

## DEAF.

Number examined 64.

			Nutrition.		Clothing.		Boots.
Good	...	...	26	...	49	...	51
Fair	...	...	26	...	11	...	7
Bad	...	...	12	...	4	...	6
<hr/>							
Defective Teeth	...	...	...	...	...	...	41
Defective Vision (39 tested)				...	...	...	12
Enlarged Tonsils	...	...	...	...	...	...	10
Nits in Head	...	...	...	...	...	...	5
Lung Affections	...	...	...	...	...	...	5
Discharging Ears	...	...	...	...	...	...	4
Chronic Discharge from Nose				...	...	...	4
Eye Defects (apart from Vision)	...	...	...	...	...	...	3
Squint	...	...	...	...	...	...	3
Rickets	...	...	...	...	...	...	2
Verminous	...	...	...	...	...	...	1
Paralysis	...	...	...	...	...	...	1
Heart Disease	...	...	...	...	...	...	1
Skin Disease	...	...	...	...	...	...	1
<hr/>							
Parents present	...	...	...	...	...	...	35
Advice given	...	...	...	...	...	...	31







